

Course Outline for AST 386C/ Galaxies (Fall 2014, Jogee)

We will cover theoretical paradigms for the hierarchical formation of galaxies and large-scale structure and the physics of galaxy evolution (e.g., gas accretion, mergers, secular processes, feedback). From an observational perspective, we will review galaxy evolution from $z \sim 0$ to $z \sim 4$, including the star formation history, star formation tracers (UV, IR, recombination lines, radio, X-ray), growth of stellar mass, merger history, chemical evolution, supermassive black holes, morphological evolution, dark matter, and the dependence on environment. For nearby galaxies, we will also discuss dynamical scaling relations. We will conclude by looking at outstanding challenges for Lambda-CDM based galaxy evolution paradigms.